



Databases in wikis

**Semantic MediaWiki on
energypedia**



Semantic MediaWiki (SMW)

- **Semantic**
meaning, content (of a word, sentence or text)

- **Semantic MediaWiki**
 - is an extension of the MediaWiki software (i.e. Wikipedia)
 - saving and retrieving of data within wiki pages
 - transforms wikis in a “collaborative database” (instead of collection of pages)
 - link to external systems possible (e.g. Excel export)



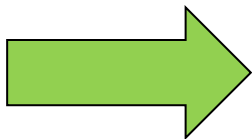
Semantic MediaWiki (SMW)

Example:

Semantic properties embedded in a wiki text.

"Berlin" is the capital of **[[capital of::Germany]]**.

The city is now home to **[[population::3,391,409]]**
people.



Information becomes understandable for the computer (giving meaning to text parts).

SMW – Output formats

Calendars and timelines

June 2011

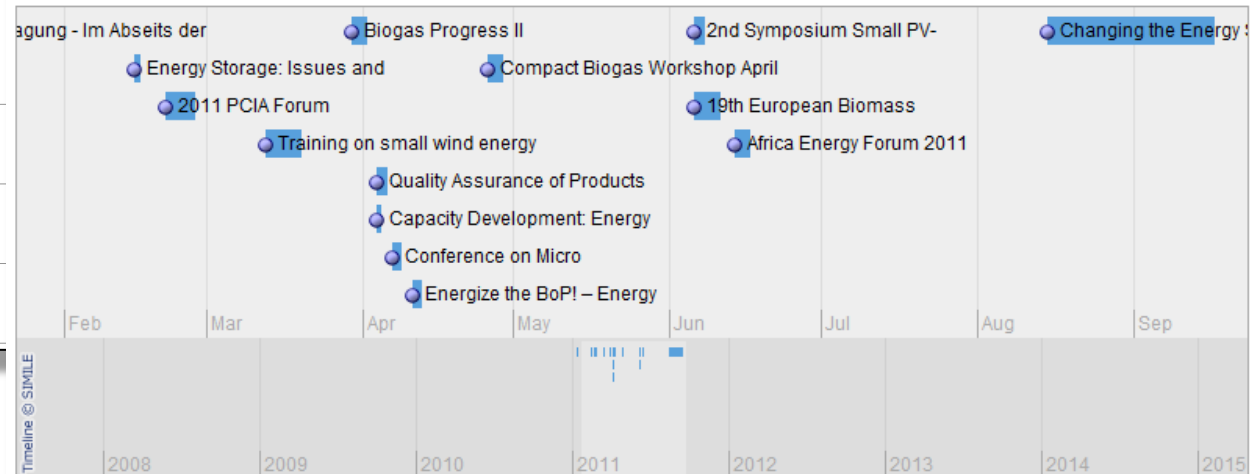
◀ Today ▶

June 2011

Go to month

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|--|--|--|--------|----------|
| 29 | 30 | 31 | 1 | 2 | 3 | 4 |
| 19th European Biomass Conference & Exhibition 2011 2nd Symposium Small PV-Applications Forum: Entwicklung braucht Energie - Atom oder eine Alternative? | 19th European Biomass Conference & Exhibition 2011 2nd Symposium Small PV-Applications | 19th European Biomass Conference & Exhibition 2011 | 19th European Biomass Conference & Exhibition 2011 | 19th European Biomass Conference & Exhibition 2011 | | |
| 12 | Africa Energy Forum 2011 | Africa Energy Forum 2011 | Africa Energy Forum 2011 | | | |
| 19 | | | | | | |
| 26 | | | | 9. Inclusive Business Lunch | | |

Event Timeline



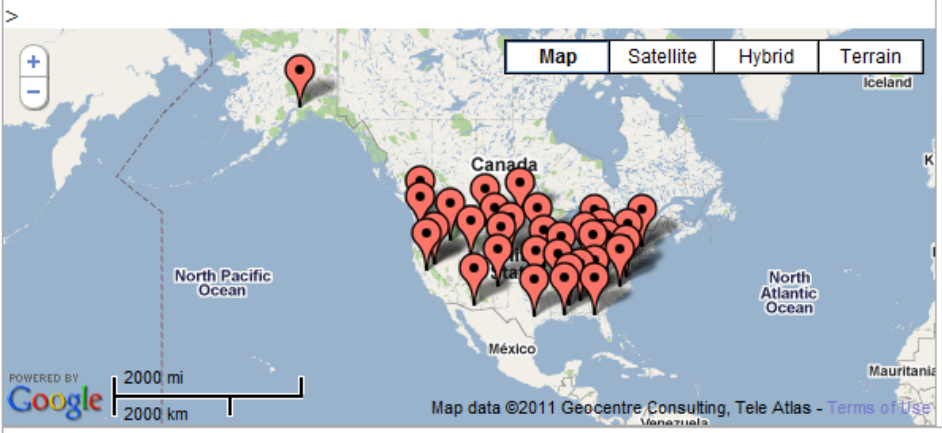
SMW – Output formats

Maps

United States Oil and Gas Boards

In the United States, oil and gas boards and commissions are the place for finding data related to oil and gas activities. These activities include well records, permitting, and production records. The list below covers nearly every state. You can add another state organization to this list.

[+ Add a new State Oil and Gas Board](#)



Map data ©2011 Geocentre Consulting, Tele Atlas - [Terms of Use](#)

- [Alabama Oil and Gas Board](#)
- [Alaska Oil and Gas Conservation Commission](#)
- [Arizona Oil and Gas Commission](#)
- [Arkansas Oil and Gas Commission](#)
- [California Division of Oil, Gas, and Geothermal Resources](#)

SMW – Output formats

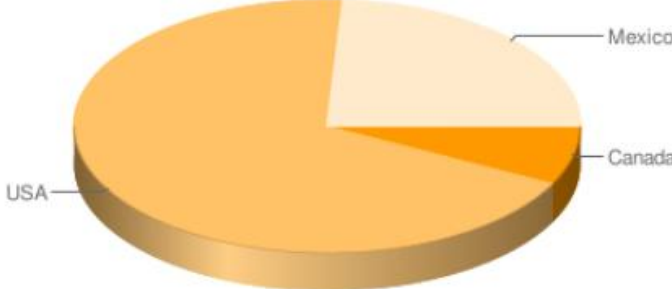
Graphs

[page](#) [discussion](#) [edit](#) [history](#) [delete](#) [move](#) [protect](#) [watch](#) [refresh](#)

North America

The North American continent is one of the 7 continents of the **earth**. It contains **United States of America** and **Canada**.

Countries



| Country | Population (approx.) |
|---------|----------------------|
| USA | 325 million |
| Mexico | 125 million |
| Canada | 35 million |

```
{{#ask:[[Category:Country]]  
[[located in::North America]]  
[[population::+]]  
|?population  
|format=googlepie  
}}
```

Facts about North America ⓘ

Has political entity **United States of America** + 🔍, and **Canada** + 🔍

Located in **Earth** + 🔍, and **America** + 🔍

SMW – Output formats

Queries / lists

| Previous Results 1–20 Next (20 50 100 250 500) | | | | | | |
|---|--|--|--|---|--|---|
|  |  Is produced by |  Bulk price |  Type of bulb |  Luminous flux |  System voltage |  Type of battery |
| AH-Lantern | Ambros Huber | | Light-emitting diode | | | Lithium-ion battery |
| AJ-Y01 | Quanzhou Anjie Solar Energy Co., Ltd | 40 | Compact fluorescent lamp | | 9 | Lead-acid battery |
| AJ-Y02 | Quanzhou Anjie Solar Energy Co., Ltd | 19 | Compact fluorescent lamp | | 9 | Lead-acid battery |
| AJ-Y03 | Quanzhou Anjie Solar Energy Co., Ltd | 23.34 | Compact fluorescent lamp | | 9 | Lead-acid battery |
| AJ-Y05 | Quanzhou Anjie Solar Energy Co., Ltd | 23 | Compact fluorescent lamp | | 9 | Lead-acid battery |
| AS016 | Astsolar | 20 | Light-emitting diode | | 6 | Lead-acid battery |
| AS021 | Astsolar | 16.5 | Light-emitting diode | | 6 | Lead-acid battery |
| Aishwarya LED | NEST | | Compact fluorescent lamp | 125.5 | | Lead-acid battery |
| Aishwarya Lantern | NEST | 47 | Compact fluorescent lamp | 125.5 | 6 | Lead-acid battery |
| Ammini SunLite | Ammini Solar | 125 | Compact fluorescent lamp | | 12 | Lead-acid battery |
| Arundhati Home Light | Global Telelinks | | Light-emitting diode | | | Lithium-ion battery |
| Arushi LED Lantern | Reliance Industries Ltd. | | Light-emitting | | | |

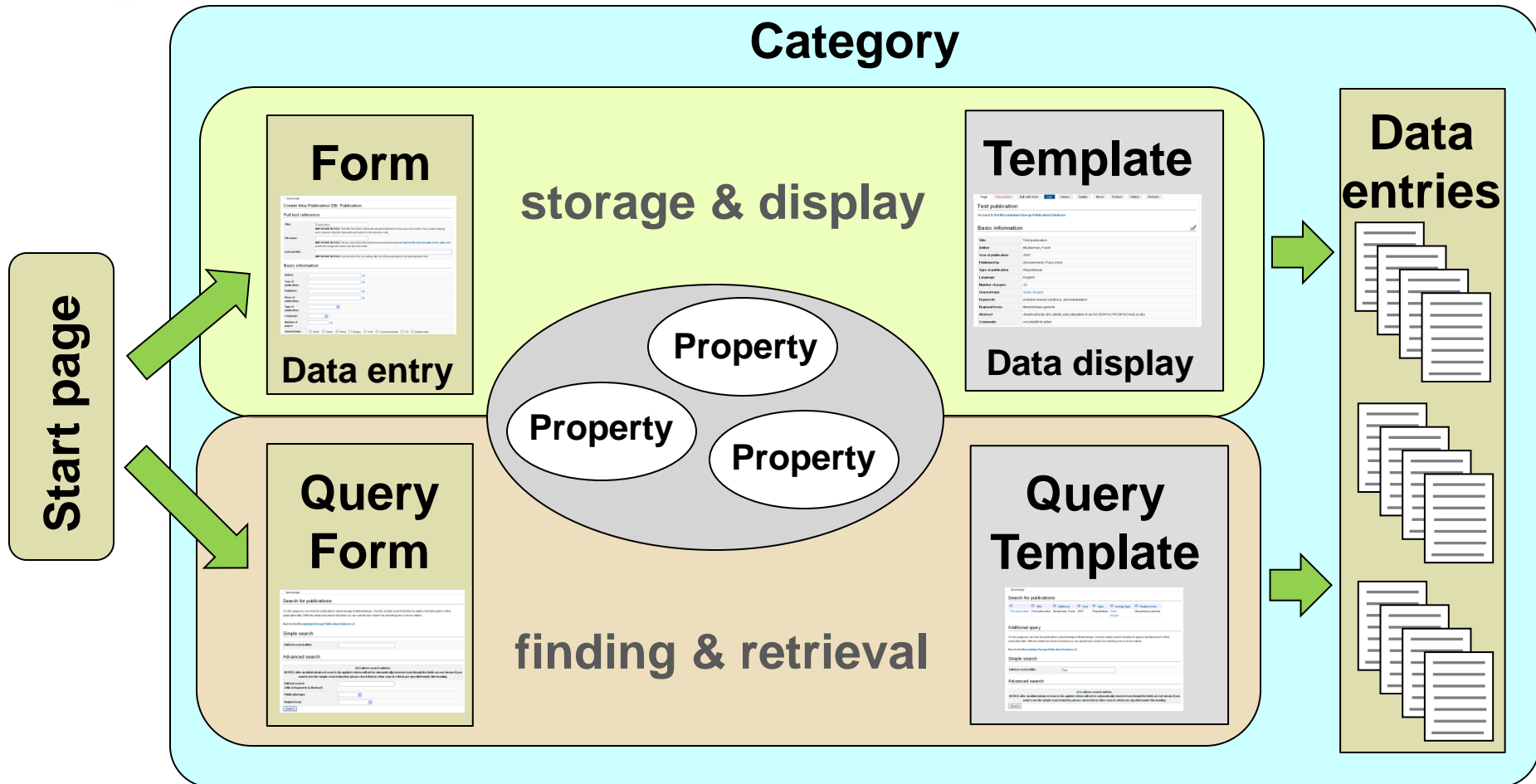


Basic components of a database

- **Property:** Smallest unit representing one data entry in a database. For example, year of publication: `[[Year::2007]]`
- **Form:** Specifies the data entry fields in the form.
- **Template:** Specifies how the single data entries are displayed.
- **Category:** Links properties, form, template and data sets.
- **Queries:** Compilation of data sets with same characteristics (i.e. lists). For example, all publications about solar energy.
- **Inline-Queries:** Are lists of data sets with same characteristics which are embedded in „normal“ wiki pages.

```
{{#ask: [[Category:City]] [[located in::Germany]]  
| ?population  
| ?area#km² = Size in km²}}
```


Structure of a database



How to adapt the database?

1) Add a new property

- **Special pages -> create a property**



Special page

Create a property

Property name: MozPub Publication Year Type: String

If you want this property to only be allowed to have certain values, enter the list of allowed values, separated by commas (if a value contains a comma, replace it with "\","):

Save page Preview

- **Add property to the form – so people can fill it out**
! Year of Publication:
| {{{field|Publication Year}}}
- **Add property to the template – so people can see it**
! Year of publication
| [[MozPub Publication Year::{{{Publication Year}}}}]

How to adapt the database?

2) Change a property

- Go to the property page

Search

- Property types

Page = link to wiki page

String = short text field

Text = unlimited text field


Number = only numbers

Date = DD / MM / YYYY

URL = external link

Property Discussion Edit History Delete Move

Property:MozPub Type



This is a property of type [[Has type::String]].

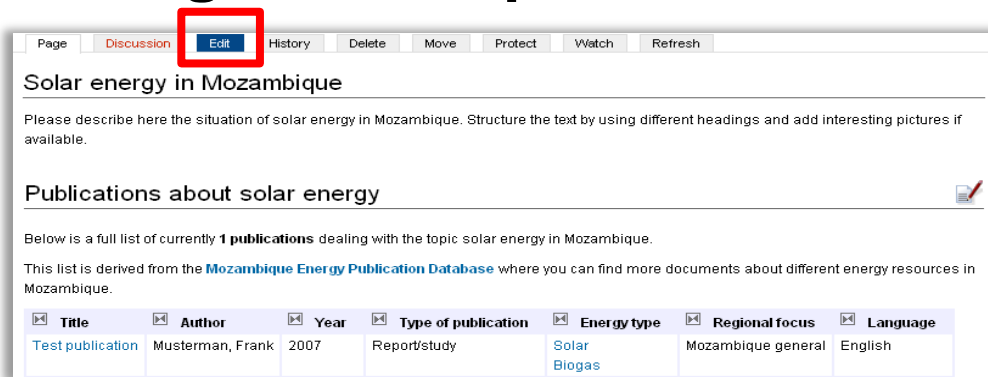
The allowed values for this property are:

- * [[Allows value::Book]]
- * [[Allows value::Book article]]
- * [[Allows value::Journal article]]
- * [[Allows value::Report/study]]
- * [[Allows value::policy/strategy paper]]
- * [[Allows value::conference paper]]
- * [[Allows value::other]]

- Characteristics / answers can be defined

How to adapt the database?

3) Change in-line queries



Solar energy in Mozambique

Please describe here the situation of solar energy in Mozambique. Structure the text by using different headings and add interesting pictures if available.

Publications about solar energy

Below is a full list of currently **1 publications** dealing with the topic solar energy in Mozambique.

This list is derived from the [Mozambique Energy Publication Database](#) where you can find more documents about different energy resources in Mozambique.

| Title | Author | Year | Type of publication | Energy type | Regional focus | Language |
|----------------------------------|------------------|------|---------------------|---|--------------------|----------|
| Test publication | Musterman, Frank | 2007 | Report/study | Solar Biogas | Mozambique general | English |

- Which database?
- Only data entries with this characteristic
- Fields which should be displayed in the output list

```

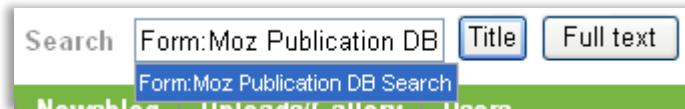
→ {{#ask:[[Belongs to::Moz publication DB]]
→ [[MozPub Energy Type::Solar]]
→ | mainlabel = Title
  | ?MozPub Author = Author
  | ?MozPub Year = Year
  | ?MozPub Type = Type of publication
  | ?MozPub Energy Type = Energy type
  | ?MozPub Region Focus = Regional focus
  | ?MozPub Language = Language
  | limit=500
  | headers=plain
}}&nbsp;

```

How to adapt the database?

4) Change the search function

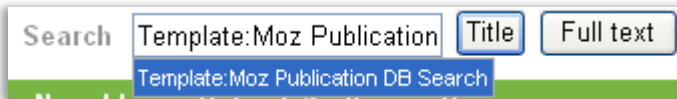
- Change the query form to add a new search field



Search Form:Moz Publication DB Title Full text
Form:Moz Publication DB Search

```
== Simple search ==
{| class="wikitable" width="100%"
| Full text search (title)
| {{{field|Full text search1}}}
|}
```

- Change the query template to change the query output list



Search Template:Moz Publication Title Full text
Template:Moz Publication DB Search

```
| ?MozPub Title = Title
| ?MozPub Author = Author(s)
| ?MozPub Year = Year
| ?MozPub Type = Type
| ?MozPub Energy Type = Energy Type
| ?MozPub Region Focus = Region Focus
```

Thank you for your
attention!

Questions?